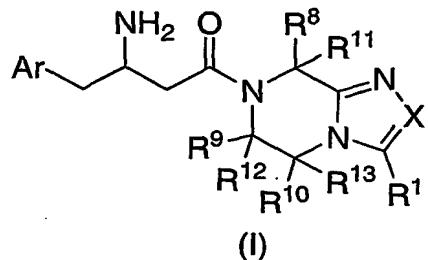


WHAT IS CLAIMED IS:

1. A compound of structural formula I:



5 or a pharmaceutically acceptable salt thereof; wherein
 each n is independently 0, 1, or 2;
 X is N or CR²;

10 Ar is phenyl substituted with one to five R³ substituents;

15 R¹ and R² are each independently selected from the group consisting of
 hydrogen,
 halogen,
 hydroxy,
 cyano,
 C₁-10 alkyl, wherein alkyl is unsubstituted or substituted with one to five substituents
 independently selected from halogen or hydroxy,
 C₁-10 alkoxy, wherein alkoxy is unsubstituted or substituted with one to five substituents
 independently selected from halogen or hydroxy,
 20 C₁-10 alkylthio, wherein alkylthio is unsubstituted or substituted with one to five
 substituents independently selected from halogen or hydroxy,
 C₂-10 alkenyl, wherein alkenyl is unsubstituted or substituted with one to five
 substituents independently selected from halogen or hydroxy,
 (CH₂)_nCOOH,
 25 (CH₂)_nCOOC₁₋₆ alkyl,
 (CH₂)_nCONR⁴R⁵, wherein R⁴ and R⁵ are independently selected from the group
 consisting of hydrogen, tetrazolyl, thiazolyl, (CH₂)_n-phenyl, (CH₂)_n-C₃-6
 cycloalkyl, and C₁-6 alkyl, wherein alkyl is unsubstituted or substituted with one

to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C₁-6 alkyl, and C₁-6 alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

5 or R⁴ and R⁵ together with the nitrogen atom to which they are attached form a heterocyclic ring selected from azetidine, pyrrolidine, piperidine, piperazine, and morpholine wherein said heterocyclic ring is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C₁-6 alkyl, and C₁-6 alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

10 (CH₂)_n-NR⁴R⁵,
(CH₂)_n-OCONR⁴R⁵,
(CH₂)_n-SO₂NR⁴R⁵,
(CH₂)_n-SO₂R⁶,
15 (CH₂)_n-NR⁷SO₂R⁶,
(CH₂)_n-NR⁷CONR⁴R⁵,
(CH₂)_n-NR⁷COR⁷,
(CH₂)_n-NR⁷CO₂R⁶,
(CH₂)_n-COR⁶,
20 (CH₂)_n-C₃-6 cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C₁-6 alkyl, and C₁-6 alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,
25 (CH₂)_n-aryl, wherein aryl is unsubstituted or substituted with one to five substituents independently selected from halogen, cyano, hydroxy, NR⁷SO₂R⁶, SO₂R⁶, CO₂H, C₁-6 alkyloxycarbonyl, C₁-6 alkyl, and C₁-6 alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,
30 (CH₂)_n-heteroaryl, wherein heteroaryl is unsubstituted or substituted with one to three substituents independently selected from hydroxy, halogen, C₁-6 alkyl, and C₁-6 alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens, and
(CH₂)_n-heterocyclyl, wherein heterocyclyl is unsubstituted or substituted with one to three substituents independently selected from oxo, hydroxy, halogen, C₁-6 alkyl,

and C₁-6 alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

wherein any methylene (CH₂) carbon atom in R¹ or R² is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C₁-4 alkyl unsubstituted or substituted with one to five halogens;

5

each R³ is independently selected from the group consisting of

hydrogen,

halogen,

10

cyano,

hydroxy,

C₁-6 alkyl, unsubstituted or substituted with one to five halogens, and

C₁-6 alkoxy, unsubstituted or substituted with one to five halogens;

15

R⁶ is independently selected from the group consisting of tetrazolyl, thiazolyl, (CH₂)_n-phenyl, (CH₂)_n-C₃-6 cycloalkyl, and C₁-6 alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C₁-6 alkyl, and C₁-6 alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens, and wherein any methylene (CH₂) carbon atom in R⁶ is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, C₁-4 alkyl, and C₁-4 alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

20

25

each R⁷ is hydrogen or R⁶;

R⁸, R⁹ and R¹⁰ are each independently selected from the group consisting of

hydrogen,

cyano,

carboxy,

30

C₁-6 alkyloxycarbonyl,

C₁-10 alkyl, unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C₁-6 alkoxy, carboxy,

C₁-6 alkyloxycarbonyl, and phenyl-C₁-3 alkoxy, wherein alkoxy is unsubstituted or substituted with one to five halogens,

(CH₂)_n-aryl, wherein aryl is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

5 (CH₂)_n-heteroaryl, wherein heteroaryl is unsubstituted or substituted with one to three substituents independently selected from hydroxy, halogen, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

10 (CH₂)_n-heterocyclyl, wherein heterocyclyl is unsubstituted or substituted with one to three substituents independently selected from oxo, hydroxy, halogen, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

15 (CH₂)_n-C₃₋₆ cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens, and

20 (CH₂)_nCONR⁴R⁵, wherein R⁴ and R⁵ are independently selected from the group consisting of hydrogen, tetrazolyl, thiazolyl, (CH₂)_n-phenyl, (CH₂)_n-C₃₋₆ cycloalkyl, and C₁₋₆ alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

25 or R⁴ and R⁵ together with the nitrogen atom to which they are attached form a heterocyclic ring selected from azetidine, pyrrolidine, piperidine, piperazine, and morpholine wherein said heterocyclic ring is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

30 wherein any methylene (CH₂) carbon atom in R⁸, R⁹ or R¹⁰ is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C₁₋₄ alkyl unsubstituted or substituted with one to five halogens;

with the proviso that when X is N, R¹⁰, R¹¹, R¹² and R¹³ are hydrogen, R⁸ or R⁹ is

hydrogen;

cyano;

C₁-10 alkyl, unsubstituted or substituted with one to five substituents selected from:

5 (1) halogen,

(2) hydroxy,

(3) phenyl, optionally substituted with one to five substituents independently selected from halogen, hydroxy, C₁-6 alkyl, and C₁-6 alkoxy, wherein alkyl and alkoxy are optionally substituted with one to five halogens,

10 (4) naphthyl, optionally substituted with one to five substituents independently selected from halogen, hydroxy, C₁-6 alkyl, and C₁-6 alkoxy, wherein alkyl and alkoxy are optionally substituted with one to five halogens,

(5) CO₂H,

(6) CO₂C₁-6 alkyl,

15 (7) CONR¹¹R¹², wherein R¹¹ and R¹² are independently selected from the group consisting of hydrogen, tetrazolyl, phenyl, C₃-6 cycloalkyl and C₁-6 alkyl, wherein alkyl is optionally substituted with one to six substituents independently selected from halogen and phenyl, wherein the phenyl or C₃-6 cycloalkyl being R¹¹ or R¹² or the optional phenyl substituent on C₁-6 alkyl are optionally substituted with one to five substituents independently selected from halogen,

20 hydroxy, C₁-6 alkyl, and C₁-6 alkoxy, said C₁-6 alkyl and C₁-6 alkoxy being optionally substituted with one to five halogens, or wherein R¹¹ and R¹² are optionally joined to form a ring selected from pyrrolidine, piperidine and morpholine;

25

phenyl, which is unsubstituted or substituted with one to five substituents independently selected from C₁-6 alkyl, C₁-6 alkoxy, hydroxy, and halogen, wherein alkyl and alkoxy are optionally substituted with one to five halogens;

30 naphthyl, which is unsubstituted or substituted with one to five substituents independently selected from C₁-6 alkyl, C₁-6 alkoxy, hydroxy, and halogen, wherein alkyl and alkoxy are optionally substituted with one to five halogens; CO₂H; C₁-6 alkyloxycarbonyl; CONR¹¹R¹²; or

C₃-6 cycloalkyl, which is optionally substituted with one to five substituents independently selected from halogen, hydroxy, C₁-6 alkyl, and C₁-6 alkoxy, wherein alkyl and alkoxy are optionally substituted with one to five halogens; and when X is CR₂ and

5 R₂ is

hydrogen,

cyano,

C₁-10 alkyl, unsubstituted or substituted with one to five halogens,

(CH₂)_n-phenyl, which is unsubstituted or substituted with one to five substituents

10 independently selected from halogen, cyano hydroxy, R₁₃, OR₁₃, NH₂SO₂R₁₃, SO₂R₁₃, CO₂H, and C₁-6 alkyloxycarbonyl, wherein R₁₃ is C₁-6 alkyl, unsubstituted or substituted with one to five halogens; or

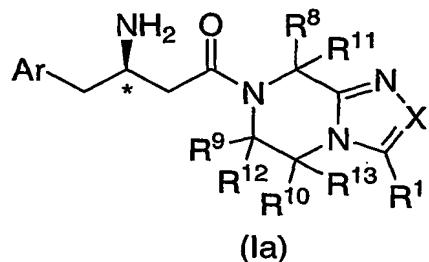
15 a 5- or 6-membered heterocycle which may be saturated or unsaturated comprising one to four heteroatoms independently selected from N, S and O, the heterocycle being unsubstituted or substituted with one to three substituents independently selected from oxo, hydroxy, halogen, C₁-6 alkyl, and C₁-6 alkoxy, wherein alkyl and alkoxy are optionally substituted with one to five halogens;

then in both cases R₁ is not

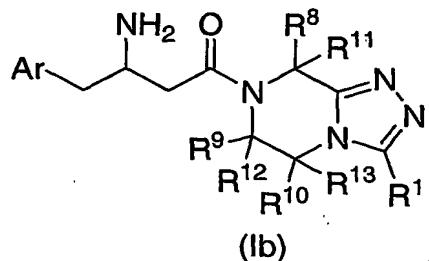
20 (3) hydrogen,
(4) cyano,
(3) C₁-10 alkyl, unsubstituted or substituted with one to five halogens,
(4) (CH₂)_n-phenyl, which is unsubstituted or substituted with one to five substituents independently selected from halogen, cyano hydroxy, R₁₃, OR₁₃, NH₂SO₂R₁₃,
25 SO₂R₁₃, CO₂H, and C₁-6 alkyloxycarbonyl, wherein R₁₃ is C₁-6 alkyl, unsubstituted or substituted with one to five halogens; or
(5) a 5- or 6-membered heterocycle which may be saturated or unsaturated comprising one to four heteroatoms independently selected from N, S and O, the heterocycle being unsubstituted or substituted with one to three substituents independently selected from oxo, hydroxy, halogen, C₁-6 alkyl, and C₁-6 alkoxy, wherein alkyl and alkoxy are optionally substituted with one to five halogens.

R₁₁, R₁₂ and R₁₃ are each independently hydrogen or C₁-6 alkyl.

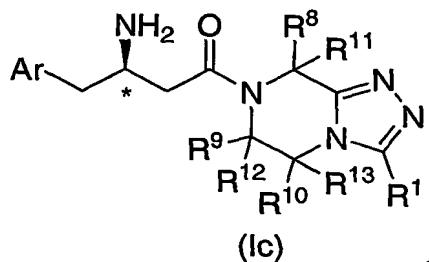
2. The compound of Claim 1 of the structural formula Ia wherein the carbon atom marked with an * has the *S* configuration



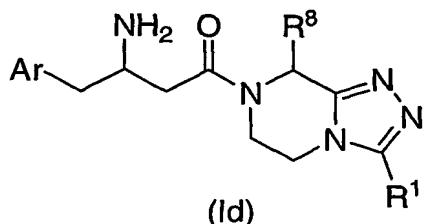
5 3. The compound of Claim 1 of the structural formula Ib



4. The compound of Claim 3 of the structural formula Ic wherein the carbon atom marked with an * has the *R* configuration

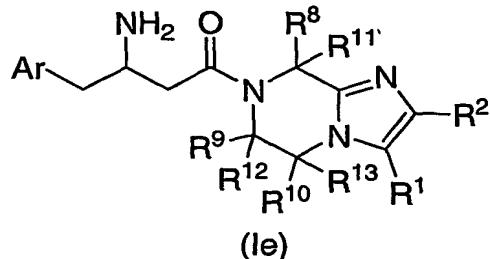


10 5. The compound of Claim 3 of the structural formula Id:

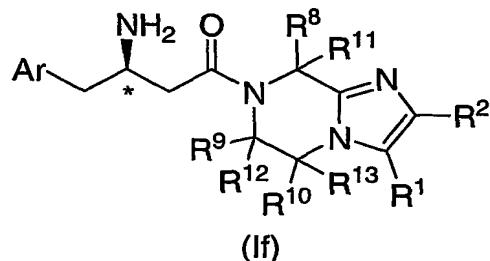


6. The compound of Claim 5 wherein R⁸ is hydrogen.

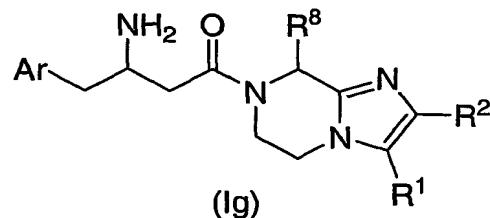
7. The compound of Claim 1 of the structural formula Ie



5 8. The compound of Claim 7 of the structural formula If wherein the carbon atom marked with an * has the R configuration



9. The compound of Claim 7 of the structural formula Ig



10 10. The compound of Claim 9 wherein R⁸ is hydrogen.

11. The compound of Claim 1 wherein R³ is selected from the group consisting of hydrogen, fluoro, chloro, bromo, trifluoromethyl, and methyl.

15 12. The compound of Claim 11 wherein R³ is selected from the group consisting of hydrogen, fluoro, and chloro.

13. The compound of Claim 1 wherein R¹ is selected from the group consisting of

5 hydrogen,
halogen,
C₁₋₆ alkyl, wherein alkyl is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,
C₁₋₆ alkoxy, wherein alkoxy is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,
10 C₁₋₆ alkylthio, wherein alkylthio is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,
C₂₋₆ alkenyl, wherein alkenyl is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,
15 (CH₂)_nCOOH,
(CH₂)_nCOOC₁₋₆ alkyl,
(CH₂)_nCONR⁴R⁵, wherein R⁴ and R⁵ are independently selected from the group consisting of hydrogen, tetrazolyl, thiazolyl, (CH₂)_n-phenyl, (CH₂)_n-C₃₋₆ cycloalkyl, and C₁₋₆ alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;
20 or R⁴ and R⁵ together with the nitrogen atom to which they are attached form a heterocyclic ring selected from azetidine, pyrrolidine, piperidine, piperazine, and morpholine wherein said heterocyclic ring is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,
25 (CH₂)_n-NR⁴R⁵,
(CH₂)_n-NR⁷COR⁷,
(CH₂)_n-C₃₋₆ cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens, and

30

(CH₂)_n-aryl, wherein aryl is unsubstituted or substituted with one to five substituents independently selected from halogen, CN, hydroxy, NR⁷SO₂R⁶, SO₂R⁶, CO₂H, C₁₋₆ alkyloxycarbonyl, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;
5 wherein any methylene (CH₂) carbon atom in R¹ or R² is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C₁₋₄ alkyl unsubstituted or substituted with one to five halogens.

10 14. The compound of Claim 13 wherein R¹ is selected from the group consisting of
hydrogen,
methyl,
ethyl,
15 trifluoromethyl,
CH₂CF₃,
CF₂CF₃,
phenyl,
cyclopropyl,
20 fluoro,
chloro,
bromo,
vinyl,
amino,
25 isopropylamino,
acetylamino,
2,2,2-trifluoroacetylamino,
tert-butylaminocarbonyl,
ethoxycarbonyl,
30 carboxy,
1-hydroxyethyl,
methoxy,
isopropoxy, and
methylthio.

15. The compound of Claim 1 wherein R² is selected from the group consisting of

R² is selected from the group consisting of

5 hydrogen,
 halogen,
 C₁₋₆ alkyl, wherein alkyl is unsubstituted or substituted with one to five substituents
 independently selected from halogen or hydroxy,
 C₂₋₆ alkenyl, wherein alkenyl is unsubstituted or substituted with one to five substituents
10 independently selected from halogen or hydroxy,
 (CH₂)_nCOOH,
 (CH₂)_nCOOC₁₋₆ alkyl,
 (CH₂)_nCONR⁴R⁵, wherein R⁴ and R⁵ are independently selected from the group
 consisting of hydrogen, tetrazolyl, thiazolyl, (CH₂)_n-phenyl, (CH₂)_n-C₃₋₆
15 cycloalkyl, and C₁₋₆ alkyl, wherein alkyl is unsubstituted or substituted with one
 to five halogens and wherein phenyl and cycloalkyl are unsubstituted or
 substituted with one to five substituents independently selected from halogen,
 hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted
 or substituted with one to five halogens;
20 or R⁴ and R⁵ together with the nitrogen atom to which they are attached form a
 heterocyclic ring selected from azetidine, pyrrolidine, piperidine, piperazine, and
 morpholine wherein said heterocyclic ring is unsubstituted or substituted with one
 to five substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and
 C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one
25 to five halogens,
 (CH₂)_n-NR⁴R⁵,
 (CH₂)_n-NR⁷COR⁷,
 (CH₂)_n-COR⁶,
 (CH₂)_n-C₃₋₆ cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to
30 three substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and
 C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one
 to five halogens, and
 (CH₂)_n-aryl, wherein aryl is unsubstituted or substituted with one to five substituents
 independently selected from halogen, CN, hydroxy, NR⁷SO₂R⁶, SO₂R⁶, CO₂H,

C₁-6 alkyloxycarbonyl, C₁-6 alkyl, and
C₁-6 alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one
to five halogens;

5 wherein any methylene (CH₂) carbon atom in R¹ or R² is unsubstituted or substituted
with one to two groups independently selected from halogen, hydroxy, and C₁-4 alkyl
unsubstituted or substituted with one to five halogens.

16. The compound of Claim 15 wherein R² is selected from the group
consisting of

10 hydrogen
trifluoromethyl,
phenyl,
cyclopropyl,
carboxy,
15 ethoxycarbonyl,
dimethylaminocarbonyl,
aminocarbonyl,
morpholin-4-ylcarbonyl,
tert-butylaminocarbonyl,
20 cyclopropylcarbonyl,
tetrazol-5-ylaminocarbonyl, and
2,2,2-trifluoroacetylamo.

17. The compound of Claim 1 wherein R⁸, R⁹, and R¹⁰ are each
25 independently selected from the group consisting of
hydrogen,
C₁-6 alkyl, unsubstituted or substituted with one to five substituents independently
selected from halogen, hydroxy, C₁-6 alkoxy, and phenyl-C₁-3 alkoxy, wherein
alkoxy is unsubstituted or substituted with one to five halogens,
30 (CH₂)_n-phenyl, wherein phenyl is unsubstituted or substituted with one to five
substituents independently selected from halogen, hydroxy, C₁-6 alkyl, and C₁-6
alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five
halogens,

(CH₂)_n-heteroaryl, wherein heteroaryl is unsubstituted or substituted with one to three substituents independently selected from hydroxy, halogen, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,
5 (CH₂)_n-heterocyclyl, wherein heterocyclyl is unsubstituted or substituted with one to three substituents independently selected from oxo, hydroxy, halogen, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens, and
10 (CH₂)_n-C₃₋₆ cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are optionally substituted with one to five halogens;
15 wherein any methylene (CH₂) carbon atom in R⁸, R⁹, or R¹⁰ is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C₁₋₄ alkyl unsubstituted or substituted with one to five halogens;
and R¹¹, R¹², and R¹³ are each independently hydrogen or methyl.

18. The compound of Claim 17 wherein R⁸, R⁹, and R¹⁰ are each independently selected from the group consisting of
20 hydrogen,
C₁₋₃ alkyl, unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C₁₋₆ alkoxy, and phenyl-C₁₋₃ alkoxy, wherein alkoxy is unsubstituted or substituted with one to five halogens,
(CH₂)_n-phenyl, wherein phenyl is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,
25 (CH₂)_n-heteroaryl, wherein heteroaryl is unsubstituted or substituted with one to three substituents independently selected from hydroxy, halogen, C₁₋₆ alkyl, and C₁₋₆ alkoxy, wherein alkyl and alkoxy are optionally substituted with one to five halogens,
30 (CH₂)_n-heterocyclyl, wherein heterocyclyl is unsubstituted or substituted with one to three substituents independently selected from oxo, hydroxy, halogen, C₁₋₆ alkyl,

and C₁-6 alkoxy, wherein alkyl and alkoxy are optionally substituted with one to five halogens, and
(CH₂)_n-C₃-6 cyclopropyl;
wherein any methylene (CH₂) carbon atom in R⁸, R⁹, or R¹⁰ is unsubstituted or
5 substituted with one to two groups independently selected from halogen, hydroxy, and
C₁-4 alkyl unsubstituted or substituted with one to five halogens;
and R¹¹, R¹², and R¹³ are each independently hydrogen or methyl.

19. The compound of Claim 18 wherein R⁸, R⁹, and R¹⁰ are each
10 independently selected from the group consisting of

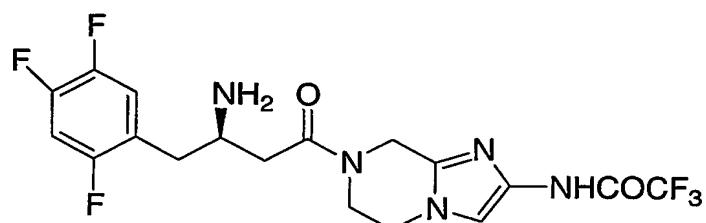
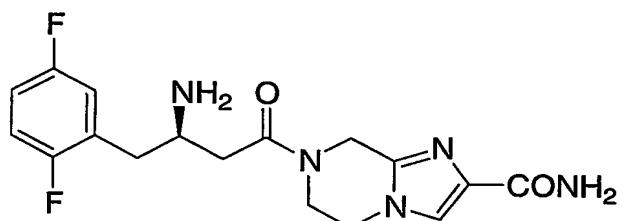
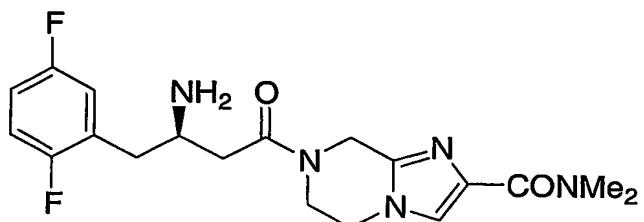
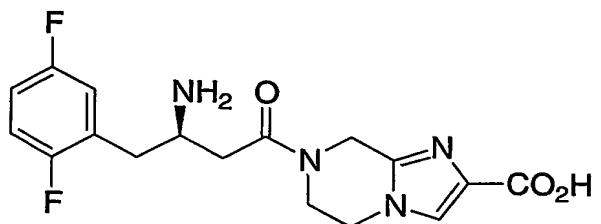
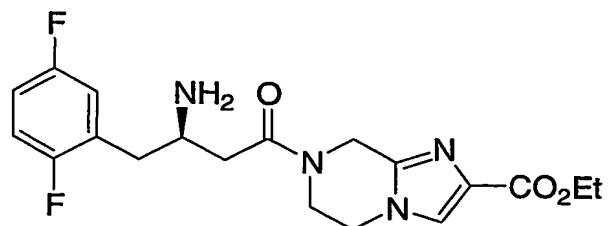
hydrogen,
CH₃,
CH₂CH₃,
CH₂-cyclopropyl,
15 CHF-cyclopropyl,
CH(OH)-cyclopropyl,
CH₂OCH₂Ph,
CH₂(4-F-Ph),
CH₂(4-CF₃-Ph), and
20 CH₂-[1,2,4]triazol-4-yl;

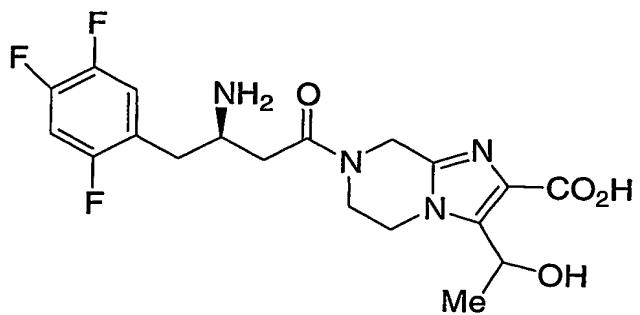
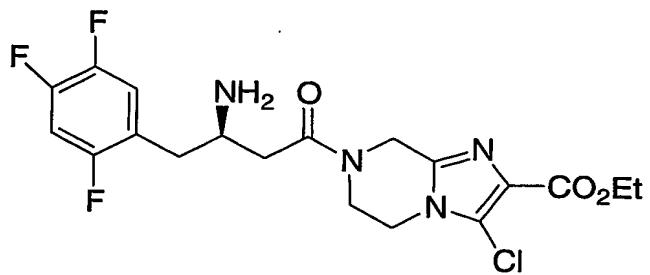
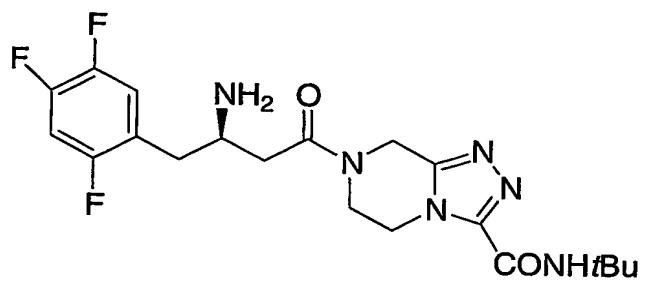
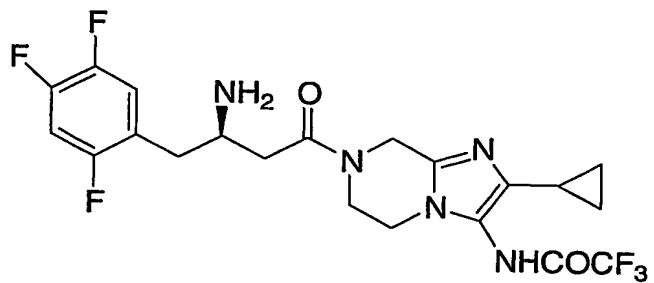
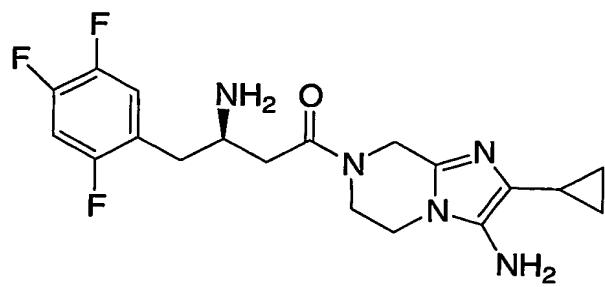
and R¹¹, R¹², and R¹³ are each independently hydrogen or methyl.

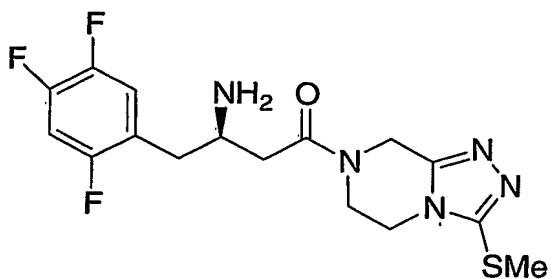
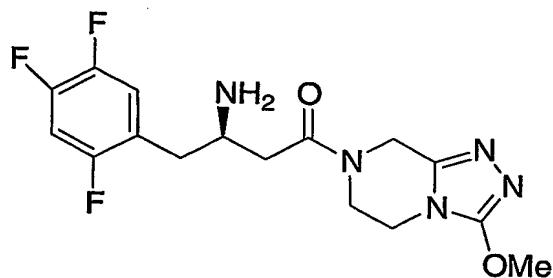
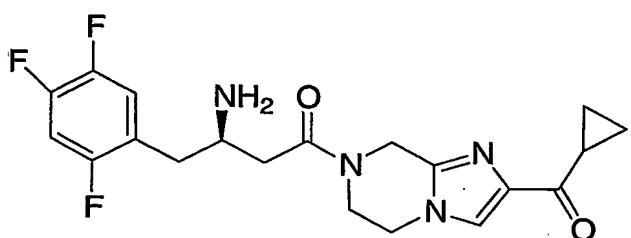
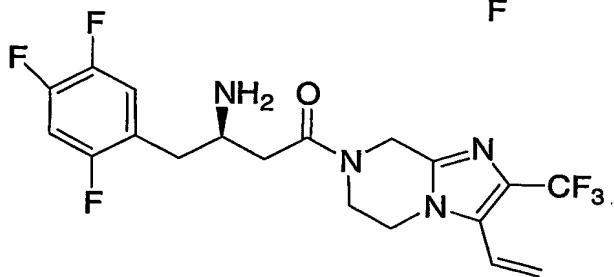
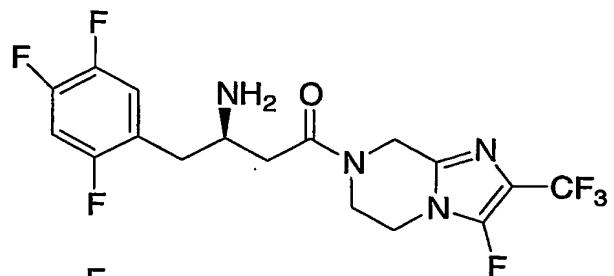
20. The compound of Claim 18 wherein R⁹, R¹⁰, R¹², and R¹³ are hydrogen.

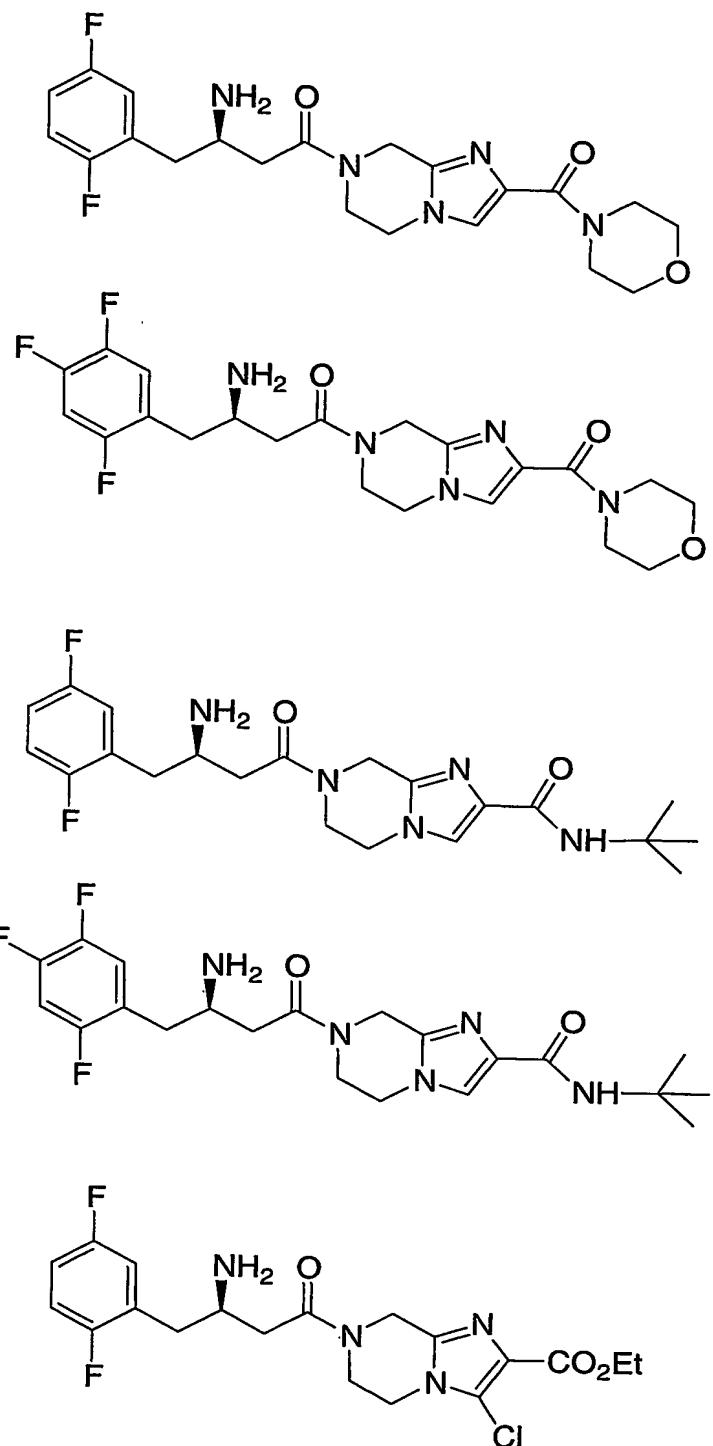
25 21. The compound of Claim 20 wherein R⁸ and R¹¹ are hydrogen.

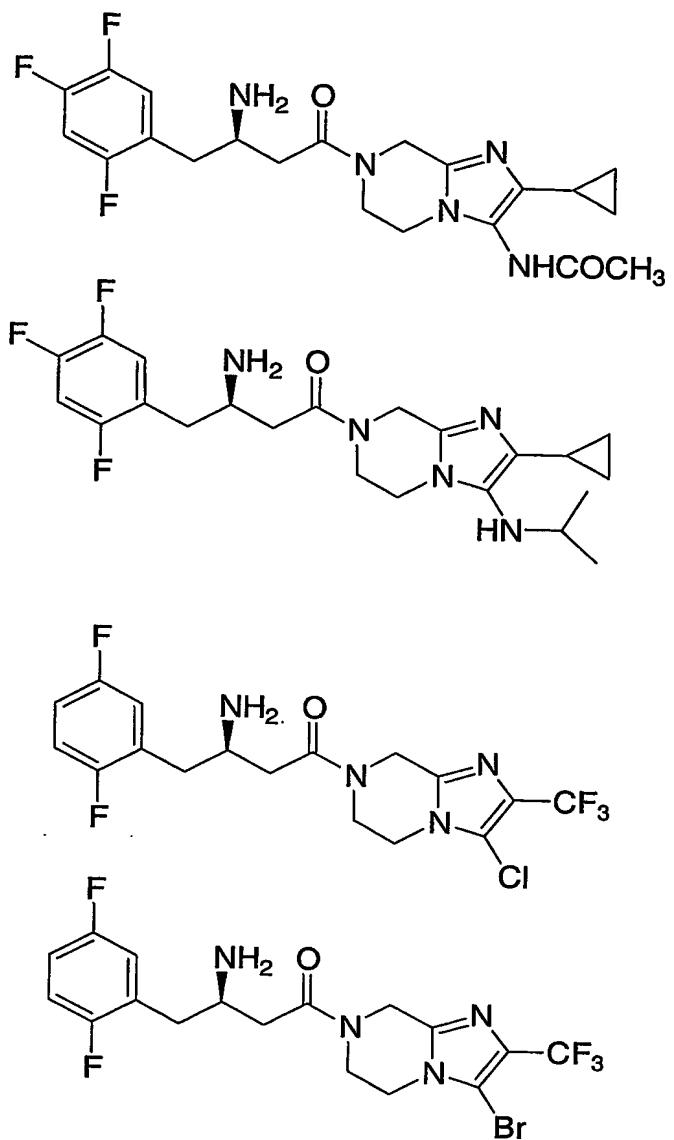
22. The compound of Claim 21 which is selected from the group consisting
of:

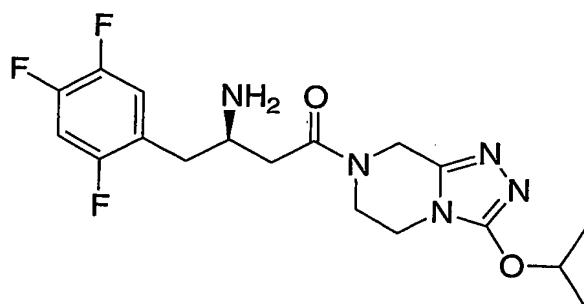
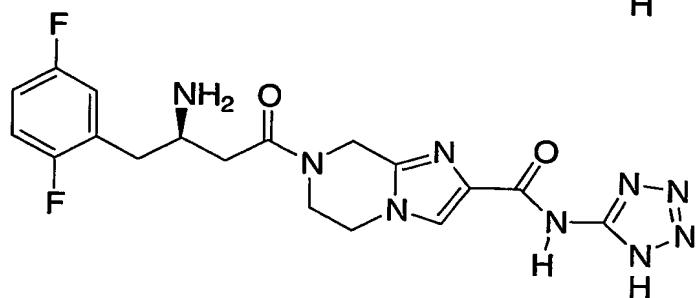
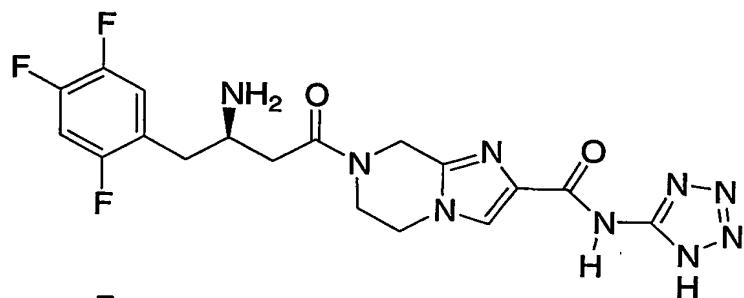
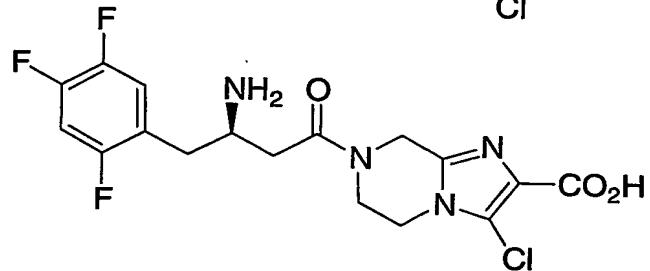
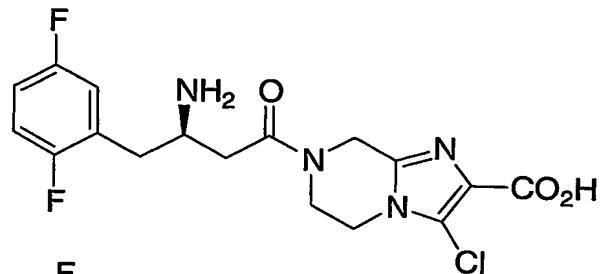


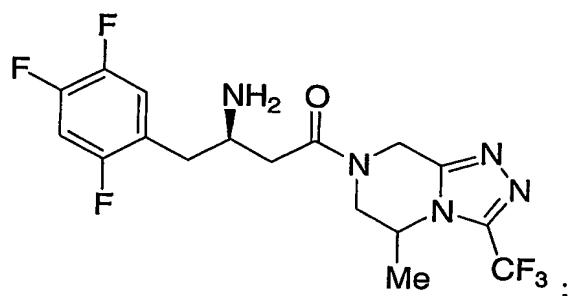
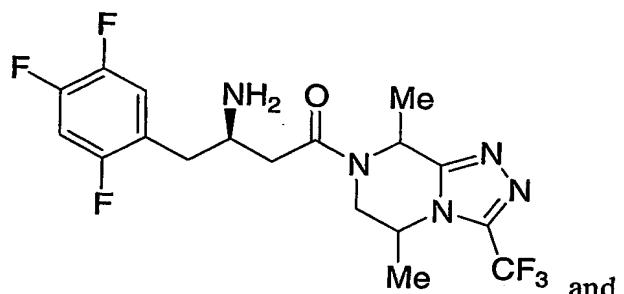
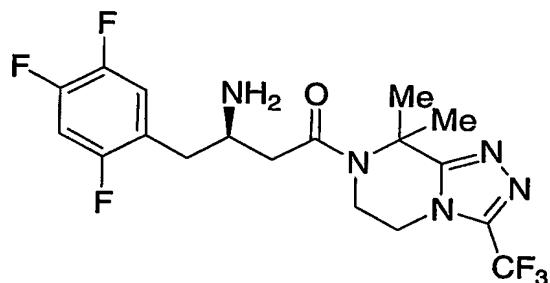
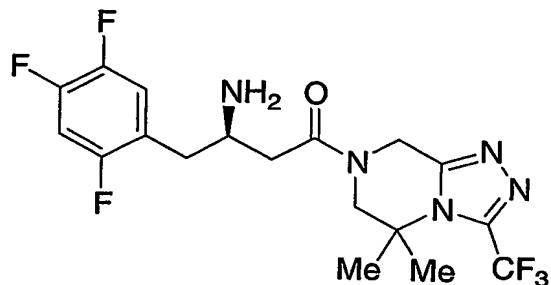












5 or a pharmaceutically acceptable salt thereof.

23. A pharmaceutical composition which comprises a compound of Claim 1 and a pharmaceutically acceptable carrier.

24. A method for inhibiting dipeptidyl peptidase-IV enzyme activity in a mammal in need thereof which comprises the administration to the mammal of an effective amount of a compound of Claim 1.

5

25. A method for treating diabetes in a mammal in need thereof which comprises the administration to the mammal of a therapeutically effective amount of a compound of Claim 1.

10 26. A method for treating non-insulin dependent (Type 2) diabetes in a mammal in need thereof which comprises the administration to the mammal of a therapeutically effective amount of a compound of Claim 1.

15 27. A method for treating hyperglycemia in a mammal in need thereof which comprises the administration to the mammal of a therapeutically effective amount of a compound of Claim 1.

20 28. A method for treating obesity in a mammal in need thereof which comprises the administration to the mammal of a therapeutically effective amount of a compound of Claim 1.

25 29. A method for treating one or more lipid disorders selected from the group of dyslipidemia, hyperlipidemia, hypertriglyceridemia, hypercholesterolemia, low HDL and high LDL in a mammal in need thereof which comprises the administration to the mammal of a therapeutically effective amount of a compound of Claim 1.

30 30. A method for treating in a mammal in need thereof one or more conditions selected from the group consisting of (1) hyperglycemia, (2) low glucose tolerance, (3) insulin resistance, (4) obesity, (5) lipid disorders, (6) dyslipidemia, (7) hyperlipidemia, (8) hypertriglyceridemia, (9) hypercholesterolemia, (10) low HDL levels, (11) high LDL levels, (12) atherosclerosis and its sequelae, (13) vascular restenosis, (14) irritable bowel syndrome, (15) inflammatory bowel disease, including Crohn's disease and ulcerative colitis, (16) other inflammatory conditions, (17) pancreatitis, (18) abdominal obesity, (19) neurodegenerative disease, (20) retinopathy, (21) nephropathy, (22) neuropathy, (23) Syndrome X, (24) ovarian

hyperandrogenism (polycystic ovarian syndrome), and other disorders where insulin resistance is a component, wherein the method comprises the administration to the mammal a therapeutically effective amount of a compound of Claim 1.

5 31. The pharmaceutical composition of Claim 23 further comprising one or more additional active ingredients selected from the group consisting of:

- (a) a second dipeptidyl peptidase IV inhibitor;
- (b) an insulin sensitizer selected from the group consisting of a PPAR γ agonist, a PPAR α/γ dual agonist, a PPAR α agonist, a biguanide, and a protein tyrosine phosphatase-1B inhibitor;
- (c) an insulin or insulin mimetic;
- (d) a sulfonylurea or other insulin secretagogue;
- (e) an α -glucosidase inhibitor;
- (f) a glucagon receptor antagonist;
- (g) GLP-1, a GLP-1 mimetic, or a GLP-1 receptor agonist;
- (h) GIP, a GIP mimetic, or a GIP receptor agonist;
- (i) PACAP, a PACAP mimetic, or a PACAP receptor agonist;
- (j) a cholesterol lowering agent such as (i) HMG-CoA reductase inhibitor, (ii) sequestrant, (iii) nicotinyl alcohol, nicotinic acid or a salt thereof, (iv) PPAR α agonist, (v) PPAR α/γ dual agonist, (vi) inhibitor of cholesterol absorption, (vii) acyl CoA:cholesterol acyltransferase inhibitor, and (viii) anti-oxidant;
- (k) a PPAR δ agonist;
- (l) an antiobesity compound;
- (m) an ileal bile acid transporter inhibitor;
- (n) an anti-inflammatory agent; and
- (o) an antihypertensive agent.

15 32. The pharmaceutical composition of Claim 31 wherein the PPAR α/γ dual agonist is KRP-297.

20 33. A method of treating diabetes in a mammal in need thereof comprising administering to the mammal a therapeutically effective amount of a compound of Claim 1 in combination with the PPAR α/γ dual agonist KRP-297.